

Mediterranean latitudes, and which occurs also in Madeira and the Canarian Group.

4. A rather large insect, intermediate apparently between *Opatrum* and *Asida*, of which I have not been able as yet to determine the genus; but which (as it would seem to be abundant in those islands) is probably well known.

5. An insect, which may perhaps constitute a new genus, bearing some slight *prima-facie* resemblance to a *Pedinus*; but with much slenderer legs, distinctly clubbed antennæ, a brownish piceous hue, and a somewhat pubescent surface.

6 and 7. Two species of *Oxyura*, Sol. (= *Melanocrus*, Dej.),—probably the *O. hegeteroides* and *pedinoides* of Erichson, described in Wiegmann's 'Archiv' (ix. 236, 64 and 65), amongst the supposed Coleoptera of Angola.

8. The *Hegeter elongatus*, Oliv. (= *striatus*, Latr.), an abundant insect in Madeira and the Canary Islands, which M. Deyrolle of Paris informs me that he has received, also, from Senegal, on the opposite coast of Africa; and which, moreover, has even been admitted (though I cannot but believe erroneously) into the European Catalogues.

Such are the 15 species collected by Messrs. Gray and Clark during a day's hard work in this barren island. And I can only add that their investigations, for so short a visit, may be considered as eminently successful; for I am informed by my nephew, F. W. Hutton, Esq., of the 23rd Welsh Fusiliers, who lately touched at St. Vincent's on his route to India, and who, likewise, went on shore for a day, to obtain for me all that he was able, that he only "succeeded in capturing six species of beetles, sundry locusts, and a lizard;" and he further adds the somewhat significant remark, that "a grave-stone sticking out of the middle of the Atlantic would be a paradise compared to it."

XLIX.—*Remarks on the Columbinæ, with a Description of a new Indian Pigeon, akin to the 'Stock Dove' of Europe.* By EDWARD BLYTH*.

IN no other group of birds is the difficulty of discriminating between *species* and *permanent varieties*, whatever latitude may be allowed under either denomination, so great and so constantly recurring, as in sundry genera of Pigeons. And yet each race, however slightly distinguished from certain other races, is remarkably true to its particular distinctive characters, where-soever it be found; and it remains to show that any gradations

* From the Journal of the Asiatic Society of Bengal, No. 3, 1857.

or transitions occur from one to another, which might not be readily accounted for by intermixture, where such cognate races meet. The numerous permanent races (considered by the Prince of Canino and others as *species*) affined to *Turtur risorius* or to *T. auritus*, afford ample exemplification; and we are unaware that any of these have been known to interbreed one with another. Moreover, so far as has been observed, it would seem that the voice or *coo* differs appreciably in each race, just as the notes of other proximate but distinct species of birds do in general, to a notable extent—as familiarly exemplified by those of the British *Phylloscopus trochilus* and *Ph. rufus*, and of many others that might be cited.

In Europe, three kinds of wild Pigeon are familiarly known, in addition to the wild Turtle Dove (*Columba turtur*, L.). They are the common ‘Ring-dove,’ Cushat, or *Ramier* (*C. palumbus*, L.), the ‘Stock-dove’ or *Columbin* (*C. aenas*, L.), and the ‘Rock-dove,’ ‘Rockier,’ or *Biset* (*C. livia*, Latham): the first two of which are foresters, habitually perching and roosting upon trees; and the third is chiefly an inhabitant of sea-cliffs, and never alights on a tree. The first builds a platform-nest, which is supported by the lighter branches of trees; the second builds in the holes of trees (old pollard ‘stocks’ especially), and not unfrequently in rabbit-burrows; and the third resorts to the cavities and deep recesses of precipitous rocks, and especially the caverns of sea-cliffs, where it nidificates in large societies. Each is the type of a generic or subgeneric group (*i. e.* a named division), according to the Prince of Canino; and each has its immediate representative or counterpart in India.

1. PALUMBUS. The ‘Cushats.’ In the W. Himalaya a bird of this group is common, which differs so little from the European race, that the two would probably blend, were they to inhabit together. The only distinctions consist in the neck-patch, which is large and almost pure white in the European Cushat, being much contracted and of a buff-colour in that of Asia; while the primaries also of the latter are more narrowly margined externally with white. Upon these slight distinctions, the Prince of Canino designates the oriental race *P. casiotis*, and notes it from Chinese Tartary. He also remarks that the Cushats of Algeria have the white neck-patch more extended than in the European race; and distinguishes another and better characterized race, from N.W. Africa, by the name *P. excelsus*.

The only other true Cushats known are from this country, viz. *P. pulchricollis* (Hodgson), from the E. Himalaya, and *P. Elphinstonei* (Sykes), from the Nilgiris and Malabar Ghats,—

of which latter the *P. Torringtonii* (*Carpophaga Torringtonii*, Kelaart) can scarcely be considered more than a variety*, and was first indicated as such in the J. A. S. xx. 178. Nevertheless, according to Mr. Edgar L. Layard, the late H. E. Strickland "at once pronounced it to be distinct" from *P. Elphinstonei*. All will agree in admitting *P. torquatus*, *P. pulchricollis*, and *P. Elphinstonei* as good 'species;' probably also *P. excelsus*; but most systematists would prefer retaining *casiotis* and *Torringtonii* as 'permanent races,' or 'varieties,' of *P. torquatus* and *P. Elphinstonei* respectively. It will be observed, that this is a mountain type in India, being wholly unknown in the plains, save *P. Elphinstonei* rarely on the elevated table-land of the Dukhun; and perhaps the *casiotis* may prove to be a winter visitant in the Punjab, occurring probably in large flocks.

There are two other fine Indian Wood Pigeons of the same *Columbine* type (as distinguished from the *Carpophagine* series of Fruit Pigeons); each of them being recognized as the type of a separate subdivision by the Prince of Canino. They are the *Dendrotreron Hodgsonii* (Vigors), which is peculiar to the Himalayan forests, and the *Alsocomus puniceus*, Tickell, of Orissa, Central India, and also Ceylon, though seemingly more common in Arakan, and especially the island of Ramri. These are mentioned merely that it might not appear that they had been overlooked.

2. PALUMBÆNA, Bonap., founded on *Col. œnas*, L. (*P. columbella*, Bonap.), the British 'Stock Dove,' to which the Prince has since added *P. Eversmanni*, from western and central Asia; very like *P. œnas*, but distinctly smaller, with black bill and yellow tip (*dertrum*),—the colouring of the bill having doubtless changed in drying, as will be shown presently. This should be the *Col. œnas* apud Meyendorff, from Bokhara, described as having the croup of a very pale grey, with all the feathers white at base, in which it accords with our Indian species; and it is not unlikely to prove the very same,—migrating according to season. The true *P. œnas* probably coexists with it in W. Asia; and the European bird is known to be extensively diffused over N. Africa.

P. Eversmanni (?), Bonap. (If new, *P. œnicapilla*, nobis.) Smaller than *P. œnas*, with wings and tail each 1 inch shorter, the difference in the length of tail being very conspicuous. Colouring much the same; but the croup and fore-part of the wings underneath are of a *whitish-grey* (not pure white) in the Indian bird, instead of being uniformly dark-coloured with the rest, as in the European 'Stock Dove.' The same vinaceous

* Comptes Rendus, xliii. p. 837.

tint (whence the name *œnas*) prevails on the fore-neck and breast of both species; but in the Indian it appears also on the crown, which in the other is pure dark ashy. The wings are similarly marked, except that in our presumed new species there is less black upon the winglet, and the great alar feathers (including the tertiaries) are much less dark in colour. Length of closed wing $8\frac{1}{2}$ inches, and of tail 4 inches only.

Among some descriptions of birds sent for identification about ten years ago, by the late Major Boys, of the Bengal Cavalry, we find one of this Indian 'Stock Dove.' He gives the length of a fresh-killed male as $11\frac{1}{2}$ in., extent of wings 24 in., and weight 7 oz. 4 dr. Mr. Selby states that *P. œnas* "measures about 14 inches, and in extent of wing nearly 26 in." "The beak," remarks Dr. D. Scott of Hansi, who has favoured us with the specimen here described, "is of a yellowish colour, and as if translucent; but this appearance is only visible in the fresh bird, as it had disappeared when the specimen became dry*. The legs also had a distinctly yellowish tinge, instead of the red of the common Blue Pigeon; but this also soon disappeared." Major Boys describes the bill and cere as grey, the skin round the eye yellow, iris buff, and legs flesh-pink; those of our common Blue Pigeon being of a deep pinkish-red.

Of the habits of the race, Major Boys merely remarks, that "These birds fly in flocks, and *affect trees*"! When at Cawnpore, last year in May, I observed every evening a large flock of Blue Pigeons to collect and roost upon some high trees within cantonments, and therefore not to be fired at; and having never observed the common Blue Pigeon of this country to roost upon trees, I was led to suspect that the birds in question were of a race of 'Stock Doves' probably different in species from the European—a conjecture which seemed to be verified by the discovery of the bird now under consideration; but I am assured, upon good authority, that the *Columba intermedia*, Strickland, does commonly roost upon trees, in which habit it would seem to differ remarkably from its very near affine the *C. livia* of Europe and N. Africa.

Of the Indian 'Stock Pigeon,' Dr. Scott remarks,—“Though I have been at Hansi nearly five years, I have never seen these Pigeons before; but others have seen them, and have assured me of their occurrence as a distinct race, different from our common Blue Pigeon which breeds in wells. Early in March there were hundreds of them about here, but they soon disappeared. They feed in the fields morning and evening, and roost in the day (and I suppose the night also) in trees, generally in

* In the dry specimen, the bill is black, with yellow *dertrum*, as in the Prince of Canino's *P. Eversmanni*.

the common 'bábul' tree, called here the 'keeker.' The natives distinguish them by the name 'kummer kulla' or 'kula,' the last word being the name of a colour*. To Europeans they are also known here as the 'Hill Pigeon,' though whether they came from the hills I cannot say." These Pigeons have hitherto been observed only in the N.W. of India.

3. COLUMBA, L. (as restricted to the 'Rockier' group of the major continent). Of this type the Prince of Canino recognizes several nearly affined races, some of which differ more or less in habit, as well as in the details of colouring. From certain of these races all the numerous varieties of domestic Pigeons have undoubtedly descended.

The most unlike the rest is the fine Snow Pigeon of the Himalaya (*C. leuconota*, Vigors), which is confined to great elevations near the snow, and assuredly does not appear to have given origin to any domestic variety.

The European Rock Pigeon (*C. livia*, Latham), according to the Prince of Canino, is found identically the same in Europe, Egypt, the whole Barbary coast, and thence on to Senegal and the Gold coast†. It is said to abound in the islands of Madeira and Teneriffe. Northward, it is common in the Hebrides, and in the Orkney, Shetland, and Faroe Isles; but in Scandinavia is altogether confined to the island of Runnesön, on the S.W. coast of Norway, where it breeds in great numbers‡. According to Temminck, Japanese specimens do not differ in any respect. It also abounds along the rocky shores of the Mediterranean and Ægean (Italy, Sicily, Malta, Greece, &c.), and those of the Euxine and Caspian, evincing everywhere a decided and remarkable predilection for the crevices and especially the deep caverns and recesses of sea-cliffs, even where the entrance is close over the water at the height of the tide; it penetrates further into such recesses than any sea-bird is known to do. It also feeds more on the tops of plants than the domestic races do habitually§, and small *Helices* are commonly found in its craw. Though rarely, if ever, inhabiting inland, unless somewhat domesticated,

* In the chapter devoted to the rearing of pigeons in the 'Ayin Akbári,' a number of breeds or races are enumerated, concluding with the 'Komeree' and the 'Gowlah' (Gladwin's translation). These names refer to the tame Collared Turtle-dove and to the common 'Blue Pigeon' of the country (or *C. intermedia*) respectively. The latter, indeed, is stated to be "a wild pigeon, of which, if a few are taken, they are speedily joined by a thousand others of their kind."

† Comptes Rendus, xxxix. p. 1107.

‡ Nilsson, as quoted by Major Lloyd, 'Scandinavian Adventures,' ii. 336.

§ The British Cushat is a great devourer of turnip-tops, as remarked by Gilbert White.

sundry old-established dove-cots have been stocked with it in various parts of Britain, where the race is maintained pure; and as thus observed, it shows no disposition to associate with the domestic breeds in neighbouring dove-cots, although considered to be the parent race from which the latter are mainly derived. Even when eggs taken from the inland colonies referred to have been hatched, and the young brought up by domestic Pigeons, these Rockiers have been known to quit their foster-parents, as soon as they could fly strongly, to rejoin their immediate relatives and progenitors. Another characteristic of the race is, that they like to breed in extensive societies; so that the large colonies of them soon absorb any stray birds, even from a great distance.

In England there is likewise a race of wild or semi-wild Blue Pigeons which maintains itself distinct, and (though numerous in individuals) continues as true to its distinctive colouring and all other characters as does the genuine Rockier, of which it is regarded as a variety. These birds frequent inland cliffs and large buildings; being also extensively reared in dove-cots, to meet the demand for pigeon-matches. They have invariably a speckled wing, each covert being marked with a black spot on each of its webs, in addition to the black bars of the typical *livia*. The scapularies also are thus marked, and the back indistinctly. The croup is pure white, as in the ordinary *livia*; and the race is chiefly remarkable for the *permanency* of its particular markings, and for commonly inhabiting much more inland than the true *Biset**.

Another such race in Italy (a degree, perhaps, more different) is indicated by the Prince of Canino by the name of *C. turricola*, and it has also been received from Persia; the croup being of "a pale blue-grey"—whitish-grey (?), as in the Indian 'Stock Dove'—"never pure white."

Another, again, is termed by him *C. rupestris*, from the mountainous and rocky parts of Songaria and Dauria (or Dahuria),—

* The same spotting of the wing is common among the Indian domestic Pigeons derived immediately from *C. intermedia*, and otherwise not differing from the pure wild race of the latter; but I know of no analogous wild or semi-wild race in this country, which presents this particular colouring as a constant distinction. Individuals or pairs so marked are here common among the tame flocks, with other varieties of colouring, as black, buff, pure white, pied, &c., and without variation in other characters or tendency to assume the peculiarities of the various 'fancy breeds.' These last manifest no tendency ever to return to wildness, their *domestication* being too complete; but tame Pigeons of some kind are said to have gone wild in North America, a few pairs of them breeding along the highlands of the Hudson; and whether these 'feral' birds tend to assume a uniform and typical coloration, we have not learned.

adopted from Pallas, but the particular distinguishing characters are not specified.

C. Schimperi, also, "which covers with its innumerable flocks the more desert plains of Abyssinia." It is stouter and more albescent than the common *C. livia*.

Likewise *C. gymnocyclus*, Gray, from Senegal. "Obscurior; orbitis nudis; rostro valde robustiore."

Lastly, *C. intermedia*, Strickland, of India*; the common 'Blue Pigeon' of this country, which only differs from *C. livia* by having the croup uniformly coloured with the back, as in the European 'Stock Dove,' and by a somewhat deeper and more uniform shade of ash-colour. Yet the purely wild birds continue true to this colouring, and no variation will be seen in the largest flocks of them, where unmixed with domestic Pigeons; but they most readily mingle with the latter, and scarcely require encouragement to fall into domestic habits. In the vicinity of Calcutta, the pure wild race can hardly be obtained, though there are domestic Pigeons in every ordinary flock (not of 'fancy birds') which are undistinguishable from the wild, in company with others varying more or less in colouring from the type. But even at Benares we remarked a great assemblage of these birds, nesting in the innumerable nooks about the famous mosque of Aurungzebe, and sought in vain for any variation of colouring among them, and especially for the white croup of the true *C. livia*. Col. Sykes refers this bird to *C. aenas*, and remarks that it is "the most common bird in the Dukhun, congregating in flocks of scores, and a constant inhabitant of every old dilapidated building." He saw "the same species, on board ship, on the voyage to England, brought from China;" and the Rev. J. Mason notes the occurrence of what he considers to be the same bird, wild in Burma. In Ceylon, according to Mr. Edgar L. Layard, "this species is extremely local, being confined to two places, 'Pigeon Island,' off Trincomali, and a rock of the southern coast near Barberrya†. From these it makes incursions into the interior; and I have heard," he adds, "of specimens being shot on the great central road, about 50 miles from Trincomali." Dr. Jerdon remarks, that "it abounds all over India, and is occasionally found in the more open spaces of jungles, especially in rocky districts, and in the neighbourhood of waterfalls,—but more generally in the open country, inhabiting walls of villages, pagodas, wells, and any large buildings, and breeding chiefly in old walls." Major Tickell, again, notices it as "exceedingly common in Chota Nagpur, breeding in all the steep, lofty rocks

* Comptes Rendus, xliii. p. 838.

† Resorting thus, it would seem, to sea-cliffs, wherever the latter are available.

of that country." Lastly, Capt. Hutton states that "it is found in Afghanistan, where, as in many parts of India, it builds in wells and ruined buildings; the 'Kazeezes,' or Artesian wells of Afghanistan, are sometimes crowded with them. They occur also in the Deyra Doon, and are known as the common Blue Pigeon. At Masuri, I have seen them only in the cultivated fields, low down on the sides of hills, in warm situations." Length 13 in. by 23 in. in breadth; and *C. livia* is described as measuring 13½ in. by 22 in.; though it is doubtful if there be any real difference.

Upon other authority we have been assured that the common Blue Pigeon of Afghanistan has the white rump of the European *livia*. It is probably identical with the Kemaon bird next to be described; and both with the *C. rupestris* of the Prince of Canino.

The late Major Boys, a most experienced collector of Indian birds, whose description of the Indian 'Stock Pigeon' we have just verified, also distinguished a 'Blue Rock Pigeon,' which he procured at Hawulbagh, in Kemaon. "This Pigeon," he remarks, "differs considerably from the common Blue Pigeon, particularly in its weight and size. It is in every respect much lighter in plumage. Length of a male 12¾ in. by 25 in.; weight 7 oz. 8 dr. Bill black, the cere grey; iris red; legs pink. Top of head, chin, and sides of face, ashy-grey. Back of neck and upper part of breast glazed metallic green. Bottom of neck metallic purple, blending into ashy light grey on the belly. Flanks and vent light grey; wing-coverts and upper part of the back of the same colour. *Middle of back white.* Upper tail-coverts dark ashy-grey. Quills grey, the shafts black, darker near their tips; second quill longest; outer webs darker than the inner. Some of the larger wing-coverts, those covering the *tectrices* [tertiaries?], together with the six or seven last tertiary feathers, bear a patch of greyish-black, which, when the wing is extended, forms two indistinct and somewhat curved bands. Tail dark grey at base, *broadly tipped with black*, and having between these two colours *a broad stripe of white* (wanting in the common *C. intermedia*). Inferior coverts white, blending with grey towards the anterior margin of the wing. Length of tail 5 in.; the quills (when the wings are closed) reaching to its tip. The exterior tail-feathers are pure white from their bases on the external web, finished off at the tip with black; the inner webs being grey at the base, as obtaining in the intermediary feathers."

Any collector who has the opportunity should endeavour to verify this particular race, the habitat of which would seem to be intermediate to that of the 'Snow Pigeon' (*C. leuconota*) and that

of the 'Common Blue' of the plains of India; the white rump alone would readily distinguish it from the latter.

Note on the Green Pigeons of Ceylon.

The *Columba pompadoura*, Gmelin, founded on pls. 19 and 20 of Brown's 'Illustrations of Zoology' (1776), has long been sought to be verified; and at length, it would appear, successfully by the Prince of Canino, in a small species, as originally described, of the size of *C. olax*, Temminck*. Consequently, the *Treron Malabarica* var. *pompadoura* of Mr. Layard's catalogue is a distinct bird, which may bear the specific name *flavogularis*, nobis. It is very like *Tr. Malabarica*, Jerdon, being of the same size as that species, with an equal development of the maroon colour upon the mantle of the male; but is readily distinguished by its yellowish-green forehead, pure yellow throat, and by having no buff patch on the breast of the male; it is also further remarkable, that whilst the male of *Tr. Malabarica* has the usual deep cinnamon-coloured lower tail-coverts, that of *Tr. flavogularis* has them green with broad whitish tips, as in the female, and as in both sexes of *Tr. chloroptera* of the Nicobars. *Tr. pompadoura* is a much smaller species, with the quantity of maroon colour on the mantle of the male greatly reduced, and with cinnamon-coloured lower tail-coverts, as usual in the males of this genus.

Following the Prince of Canino's classification, the following species of *Treroninæ* inhabit the island:—

1. *Crocopus chlorigaster* (Blyth).
2. *Osmotreron bicincta* (Jerdon).
3. — *flavogularis* (Blyth).
4. — *pompadoura* (Gmelin).

The first and second are common to Ceylon and the mainland of India, and the third and fourth peculiar to the island, so far as is known at present.—E. B.

L.—*A Description of two new Cryptogams* †.

By Mr. H. O. STEPHENS.

[With a Plate.]

THE curious production about to be described I detected on calcined bones of oxen, part of the cargo of a vessel laden with

* Comptes Rendus, xxxix. p. 875.

† Communicated by the Author; having been read at a Meeting of the Bristol Microscopical Society, Sept. 16, 1857.